WHAT IS CLAIMED IS:

1. A device for picking up a stereoscopic image, comprising:

one image pickup element to which an image light for a left eye and an image light for a right eye are guided for picking up an image for the left eye and an image for the right eye which are used as a stereoscopic image and given an appropriate visual angle;

a left-eye shutter means disposed in an optical path of the image light for the left eye for taking any one of a shield state where the image light for the left eye is shielded and a pass state where the image light for the left eye is allowed to pass; and

a right-eye shutter means for taking any one of a shield state where the image light for the right eye is shielded and a pass state where the image light for the left eye is allowed to pass;

wherein said left-eye shutter means and said right-eye shutter means are alternately put into the pass state to make said image pickup element alternately pick up the image light for the right eye and the image light for the left eye.

2. The device for picking up a stereoscopic image as claimed in claim 1, further comprising one objective lens system that allows the image light for the left eye and the image light for the right eye to pass.

3. The device for picking up a stereoscopic image as

claimed in claim 1, further comprising one light shield plate having two openings defined therein so that one light that has passed through one of those two openings in said light shield plate becomes the image light for the left eye, and the other light that has passed through the other opening in said shield plate becomes the image light for the right eye.

4. The device for picking up a stereoscopic image as claimed in claim 3, further comprising one objective lens system that allows the image light for the left eye and the image light for the right eye to pass;

wherein said light shield plate is disposed in an optical path between said objective lens system and said image pickup element to shield the image light that has passed through said objective lens system so that a light that has passed through one of the openings in said light shield plate becomes the image light for the left eye, and another light that has passed through the other opening in said light shield plate becomes the image light for the right eye.

5. The device for picking up a stereoscopic image as claimed in claim 3, wherein the two openings are disposed eccentrically from the optical axis of said objective lens system by regular distances, respectively.

6. The device for picking up a stereoscopic image as claimed in claim 3, wherein said light shield plate is disposed in proximity to an image sided principle point of said objective

lens system.

7. The device for picking up a stereoscopic image as claimed in claim 3, wherein said objective lens system comprises one objective lens, and said light shield plate is disposed close to any surface of said objective lens.

8. The device for picking up a stereoscopic image as claimed in claim 3, wherein each of said left-eye shutter means and said right-eye shutter means includes a shutter plate that is disposed to be movable forward and backward in an optical path of the image light for the left eye or the image light for the right eye, through which the light does not pass; and

wherein said shutter plate is disposed in each of the openings of said light shield plate.

9. The device for picking up a stereoscopic image as claimed in claim 3, wherein said left-eye shutter means and said right-eye shutter means includes a polarizing plate, said polarizing plate comprises:

two polarizing plates each of which polarizes the image light that has passed through one polarizing plate into the polarized light different in an orientation of a vibrating face from the image light that has passed through another polarizing plate; and

a passing light selecting means for alternately taking a first state in which one image light which has been polarized into the polarized light is shielded and the other image light is

allowed to pass, and a second state in which the other image light which has been polarized into the polarized light is shielded, and said one image light is allowed to pass.

10. The device for picking up a stereoscopic image as claimed in claim 9, wherein said passing light selecting means comprises one liquid crystal plate and one selection polarizing plate;

wherein said liquid crystal takes a non-rotation state in which the image light which has been polarized into the polarized light by the polarizing plate is allowed to pass without changing the orientation of its vibration plane, and a rotation state in which the image light which has been polarized into the polarized light by the polarizing plate is allowed to pass after its vibration plane has been rotated; and

wherein said selection polarizing plate allows one of the image lights that have passed through said polarizing plate to pass and the other image light to be shielded in one state of said non-rotation state and said rotation state, and allows the one of the image lights that have passed through said liquid crystal plate to be shielded and the other image light to be pass in the other state of said non-rotation state and said rotation state.

~~11. The device for picking up a stereoscopic image as~~ claimed in claim 3, wherein each of said left-eye shutter means and said right-eye shutter means comprises:

a polarizing plate that is disposed on each of the openings

~~of the light shield plate and polarizes the light~~ that has passed through the light shield plate into a polarized light;

a liquid crystal plate that takes a non-rotation state where the image light that has been polarized into a polarized light by said polarizing plate is allowed to pass without changing the orientation of its vibration plane and a rotation state where the image light that has been polarized into a polarized light by said polarizing plate is allowed to pass after its vibration plane has been rotated; and

a selection polarizing plate that allows the image light that has passed through said liquid crystal plate to pass in one state of aid non-rotation state and said rotation state, and shields the image light that has passed through said liquid crystal plate in the other state of said non-rotation state and said rotation state.

12. The device for picking up a stereoscopic image as claimed in claim 9, wherein said objective lens and said light shield plate are integrated with each other, said image pickup element, said liquid crystal plate and said selection polarizing plate are integrated together, and said image pickup element, said liquid crystal plate and said selection polarizing plate are ~~separatable from said objective lens and said light shield plate.~~

13. The device for picking up a stereoscopic image as claimed in claim 1, wherein both of said left-eye shutter means and said right-eye shutter means change over the shield state and

the passing state at a time interval shorter than 1/40 seconds.

14. The device for picking up a stereoscopic image as claimed in claim 13, wherein each of said left-eye shutter means and said right-eye shutter means changes over the shield state and the passing state at a time interval which is the half of a period of time during which one frame is displayed on a predetermined display device on which the stereoscopic image is displayed.

15. The device for picking up a stereoscopic image as claimed in claim 13, wherein each of said left-eye shutter means and said right-eye shutter means changes over the shield state and the passing state at a time interval of 1/60 seconds.

~~16. A part which are fitted in an optical~~ path of the image light of a video camera having one image pickup element and guides the image light for the left eye image and the image light for the right eye image to which an appropriate visual angle is given to said image pickup element, to thereby pick up a stereoscopic image by said video camera; wherein said part has two openings, one light that has passed through one of the openings in said light shield plate becomes the image light for the left eye, and another light that has passed through the other opening in said light shield plate becomes the image light for the right eye; and wherein a shutter plate through which a light does not pass and which is so disposed as to be movable forward and backward in an optical path of the left-eye image light or the right-eye image light is

disposed in each of the openings.

17. An image display integrated image pickup device, comprising:

an image pickup device as claimed in claim 14; and

a display device comprising a display screen in which a large number of linear regions that display a part of an image are arranged in parallel into a plane, and a part of a given moving image is displayed on each of the linear regions to display the given moving image; a frame memory in which image data representative of an image for one frame of the moving image which is displayed on said display screen is recorded; a control means that receives the data representative of the moving image to be displayed on said display screen from said image pickup device, records the data in said frame memory, and displays the data on said display screen at a given timing to control an image displayed on said display screen; a polarizing plate that is disposed on a front surface of said display screen for polarizing the light from said display screen into a polarized light having a predetermined vibration plane, in which the linear regions are divided into two alternate groups consisting of one group that forms a first region where a part of the left-eye image transmitted to the left eye of the viewer is displayed, and the other group that forms a second region where a part of the right-eye image transmitted to the right eye of the viewer and picked up with an appropriate visual angle with respect to the left-eye image is

displayed; and a polarization plane rotating means that is disposed on a front surface of said polarizing plate for changing the vibration plane of the polarized light from said first region which has passed through said polarizing plate and the vibration plane of the polarized light from said second region which has passed through said polarizing plate in different directions;

wherein said control means records the image corresponding to the first frame in said frame memory in an interlaced manner while the left-eye image is drawn on one region of said first region and said second region, and the right-eye image is drawn on the other region.

18. An image display integrated image pickup device, comprising:

an image pickup device as claimed in claim 15; and

a display device comprising a display screen in which a large number of linear regions that display a part of an image are arranged in parallel into a plane, and a part of a given moving image is displayed on each of the linear regions to display the given moving image; a frame memory in which image data representative of an image for one frame of the moving image which is displayed on said display screen is recorded; a control means that receives data representative of the moving image to be displayed on said display screen from said image pickup device, records the data in said frame memory, and displays the data on said display screen at a given timing to control an image displayed

on said display screen; a polarizing plate that is disposed on a front surface of said display screen for polarizing the light from said display screen into a polarized light having a predetermined vibration plane, in which the linear regions are divided into two alternate groups consisting of one group that forms a first region where a part of the left-eye image transmitted to the left eye of the viewer is displayed, and the other group that forms a second region where a part of the right-eye image transmitted to the right eye of the viewer and picked up with an appropriate visual angle with respect to the left-eye image is displayed; and a polarization plane rotating means that is disposed on a front surface of said polarizing plate for changing the vibration plane of the polarized light from said first region which has passed through said polarizing plate and the vibration plane of the polarized light from said second region which has passed through said polarizing plate in different directions;

wherein said control means records the image corresponding to the first frame in said frame memory in an interlaced manner every 1/30 seconds while the left-eye image is drawn on one region of said first region and said second region, and the right-eye image is drawn on the other region.

19. A method of producing stereoscopic mage data which guides an image light for a left-eye image and an image light for a right-eye image to be used as a stereoscopic image to which an appropriate visual angle is given to an image pickup element of

a video camera having said image pickup element to pick up the stereoscopic image to produce the stereoscopic image data representative of the stereoscopic image which is a moving picture, including the left-eye image data representative of the left-eye image and the right-eye image data representative of the right-eye image, said method comprising the step of:

alternately guiding the image light for the left eye and the image light for the right eye to said image pickup element to produce the stereoscopic image data in which the left-eye image data and the right-eye image data are alternately arranged.

20. The method of producing stereoscopic mage data as claimed in claim 19, wherein the image light for the left eye and the image light for the right eye are alternately guided to said image pickup element at regular time intervals shorter than 1/40 seconds to pick up the image.

21. The method of producing stereoscopic mage data as claimed in claim 20, wherein the image light for the left eye and the image light for the right eye are alternately guided to said image pickup element at a time interval which is the half of a period of time during which one frame is displayed on a predetermined display device on which the stereoscopic image is displayed to pick up the image.

22. The method of producing stereoscopic mage data as claimed in claim 20, wherein the image light for the left eye and the image light for the right eye are alternately guided to said

image pickup element at a time interval of 1/60 seconds.

23. An image display method which is executed by a display device comprising: a display screen in which a large number of linear regions that display a part of an image are arranged in parallel into a plane, and a part of a given moving image is displayed on each of the linear regions to display the given moving image; a frame memory in which image data representative of an image for one frame of the moving image which is displayed on said display screen is recorded; and a control means that receives data representative of the moving image to be displayed on said display screen, records the data in said frame memory, and displays the data on said display screen at a given timing to control an image displayed on said display screen; in which the linear regions are divided into two alternate groups consisting of one group that forms a first region where a part of the left-eye image transmitted to the left eye of the viewer is displayed, and the other group that forms a second region where a part of the right-eye image transmitted to the right eye of the viewer and picked up with an appropriate visual angle with respect to the left-eye image is displayed, said control means executing the steps of:

receiving the stereoscopic image data produced in the stereoscopic image data producing method as claimed in claim 21;

recording data representative of the stereoscopic image corresponding to one frame in said frame memory in an interlaced manner on the basis of a pair of the continuous left-eye image

data and right-eye image data out of the received stereoscopic image data while the left-eye image is displayed in said first region and the right-eye image is displayed in said second region; and

displaying the stereoscopic image including the left-eye image and the right-eye image in one frame on said display screen on the basis of data representative of the stereoscopic image recorded in said frame memory.

24. An image display method which is executed by a display device comprising: a display screen in which a large number of linear regions that display a part of an image are arranged in parallel into a plane, and a part of a given moving image is displayed on each of the linear regions to display the given moving image; a frame memory in which image data representative of an image for one frame of the moving image which is displayed on said display screen is recorded; and a control means that receives data representative of the moving image to be displayed on said display screen, records the data in said frame memory, and displays the data on said display screen at a given timing to control an image displayed on said display screen; in which the linear regions are divided into two alternate groups consisting of one group that forms a first region where a part of the left-eye image transmitted to the left eye of the viewer is displayed, and the other group that forms a second region where a part of the right-eye image transmitted to the right eye of the viewer and picked up with an

appropriate visual angle with respect to the left-eye image is displayed, said control means executing the steps of:

receiving the stereoscopic image data produced in the stereoscopic image data producing method as claimed in claim 22;

recording data representative of the stereoscopic image corresponding to one frame in said frame memory in an interlaced manner on the basis of a pair of the continuous left-eye image data and right-eye image data out of the received stereoscopic image data every 1/30 seconds while the left-eye image is displayed in said first region and the right-eye image is displayed in said second region; and

displaying the stereoscopic image including the left-eye image and the right-eye image in one frame on said display screen on the basis of data representative of the stereoscopic image recorded in said frame memory every 1/30 seconds.

25. The image display method as claimed in claim 23, wherein said control means records the data representative of the stereoscopic image corresponding to one frame in said frame memory in such a manner that each of said first region and said second region corresponds to one scanning line that constitutes the display screen.

26. The image display method as claimed in claim 24, wherein said control means records the data representative of the stereoscopic image corresponding to one frame in said frame memory in such a manner that each of said first region and said second

region corresponds to one scanning line that constitutes the display screen.

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